Job Title: Assembly and Analysis Engineer IO0396

Requisition ID **4160** - Posted - (France, 13067 St Paul Lez Durance Cedex) - **Construction and Installation** - **New Posting**

The ITER Organization brings together people from all over the world to be part of a thrilling human adventure in southern France—building the ITER Tokamak. We require the best people in every domain.

We offer challenging full-time assignments in a wide range of areas and encourage applications from candidates with all levels of experience, from recent graduates to experienced professionals. Applications from under-represented ITER Members and from female candidates are strongly encouraged as the ITER Organization supports diversity and gender equality in the workplace.

Our working environment is truly multi-cultural, with 29 different nationalities represented among staff. The ITER Organization Code of Conduct gives guidance in matters of professional ethics to all staff and serves as a reference for the public with regards to the standards of conduct that third parties are entitled to expect when dealing with the ITER Organization.

The south of France is blessed with a very privileged living environment and a mild and sunny climate. The ITER Project is based in Saint Paul-lez-Durance, located between the southern Alps and the Mediterranean Sea—an area offering every conceivable sporting, leisure, and cultural opportunity.

To see why ITER is a great place to work, please look at this video

Application deadline: 01/08/2021
Domain: Construction
Department: Machine Construction
Division: Ex-Vessel Delivery & Assembly
Job Family: Project Engineering
Job Role: Engineer - 1
Job Grade: P2
Language requirements: Fluent in English (written & spoken)
Contract duration: Up to 5 years

Purpose

In this role, you will coordinate the structural, electro-magnetic and thermo-hydraulic analyses on tokamak components under Ex-Vessel Delivery & Assembly Division (EVDA) responsibility, including integrated analysis with tools.
Additionally, you will support development of engineering and construction work packages for in-cryostat and in-vessel components for handover to Tokamak Assembly Contractors, in close collaboration with engineering teams and “Construction Management as Agent” (CMA).

Background

Analysis of the components of the tokamak is required throughout the construction of the tokamak. Analyses may be driven by updated input loads, revised or new operational scenarii, assessment of possible component modifications due to non-conformances, deviation requests, or alternative assembly processes including different interfaces to assembly tools. The components under the responsibility of EVDA include poloidal field coils, correction coils, central solenoid, the feeders for all magnets systems as well as the complete cryostat including its support system and interfaces to the tokamak building. This position is assigned in the Ex-Vessel Assembly Group, which provides horizontal support to the sections and groups within EVDA.

Major Duties/Responsibilities

- Develops and maintains a resource-loaded plan, including both internal and external resources as required, to meet the analysis needs of EVDA;

- Prepares annual work-plan for out-sourcing of analyses, overseeing the tender, contract placement and execution for analyses contracts;
- Develops and maintains the input data, boundary conditions and analysis results, in line with applicable ITER Organization (IO) processes;
- Reviews and approves analyses reports prepared by contractors;
- Establishes and maintains computer based analysis data libraries for analyses related to tokamak components under EVDA responsibility, ensuring the traceability of analyses through the component lifecycle;
- Performs and oversees finite element structural, electro-magnetic and / or thermo-hydraulic analyses, including definition of the input data and boundary conditions, and preparation of reports, including results of previous magnet performance analyses shall be taken into account where appropriate;
- Performs assessment of deviation requests / non-conformities, based on all required justifications, including proposal and follow-up of corrective actions where appropriate;
- Reviews construction process for in-cryostat components, ensuring consistency of analysis with assembly, lifting and handling processes;
- May be required to support preparation of engineering and construction work packages for tokamak components on the basis of system engineering input:
    - Confirms relevant assembly strategies for the installation process;
    - Documents assembly process inputs for cost and schedule development;
    - Identifies and resolves open points in the construction process;
    - Fixes process interfaces between components or systems and tools;
    - Proposes approaches to improve quality, and / or optimize cost and schedule;
    - Controls and confirms input data to Tokamak Construction Contractors with CMA.
- May be required to survey and monitor construction work execution, including as a member of the IO–CMA Integrated Team, anticipating and resolving difficulties to ensure construction progress to schedule;
- May be required to work outside ITER Organization reference working hours, including nights, weekends and public holidays;
- May be requested to be part of any of the project/construction teams and to perform other duties in support of the project;

Measures of Effectiveness

- Preparation of work plans and budget estimates, including for external contracts within defined timelines;
- Preparation of accurate documentation and input data for analysis contracts as requested;
- Timely preparation, execution, review and approval of external analyses contracts;
- Provides efficient and high quality service to the division members and other stakeholders;

Qualifications and Experience

- ***Professional Experience:***
    - At least 7 years' experience managing engineering analysis systems for multidisciplinary technical or construction projects.
- ***Education*:**
    - Bachelor's degree or equivalent in mechanical design or engineering field or other relevant discipline;
    - The required education degree may be substituted by extensive professional experience involving similar work responsibilities and/or additional training certificates in relevant domains.
- ***Language requirements:***
    - Fluent in English (written and spoken).
- ***Technical competencies and demonstrated experience in:***
    - Analysis requirements: definition, risk identification, and management: anticipate and adapt proposed solutions and tasks to the environment and constraints, cascading customized requirements;

    - Quality Management: knowledge of requirements for international quality standards (both management and product), methods and practices, QA/QC implementation for industrial production;
    - Research and/ or engineering projects;
    - Construction oversight: ensuring construction work is executed in accordance with requirements;
    - Planning: define scopes of work, duration, estimating cost, sequencing, risk and planning for change management;
    - Contract management: requirements definition, sourcing activities and monitoring of contracts including management of external parties to ensure execution and implementation according to contractual agreements;
    - Organization and co-ordination skills with the ability to set priorities and meet deadlines;
    - Finite element codes (ANSYS) and CAD systems (particularly CATIA V5).
- ***Behavioral Competencies:***
    - Collaborate: Ability to facilitate dialogue with a wide variety of contributors and stakeholders;
    - Communicate Effectively: Ability to adjust communication content and style to deliver messages to work effectively in a multi-cultural environment;
    - Drive results: Ability to persist in the face of challenges to meet deadlines with high standards;
    - Manage Complexity: Ability to analyze multiple and diverse sources of information to understand/define problems accurately before moving to proposals;
    - Instill trust: Ability to apply high standards of team mindset, trust, excellence, loyalty and integrity.

The following important information shall apply to all jobs at ITER Organization:

- Maintains a strong commitment to the implementation and perpetuation of the ITER Safety Program, ITER Values (Trust; Loyalty; Integrity; Excellence; Team mind set; Diversity and Inclusiveness) and Code of Conduct;
- ITER Core technical competencies of 1) Nuclear Safety, environment, radioprotection and pressured equipment 2) Occupational Health, safety & security 3) Quality assurance processes. Knowledge of these competencies may be acquired through on-board training at basic understanding level for all ITER staff members;
- Implements the technical control of the Protection Important Activities, as well as their propagation to the entire supply chain;
- May be requested to work on beryllium-containing components. In this case, you will be required to follow the established ITER Beryllium Management Program for working safely with beryllium. Training and support will be provided by the ITER Organization;
- May be requested to be part of any of the project/construction teams and to perform other duties in support of the project;
- Informs the IO Director-General, Domain Head, or Department/Office Head of any important and urgent issues that cannot be handled by line management and that may jeopardize the achievement of the Project’s objectives.